An Archaeological Survey of the 52 Acre Krause Tract, North Bexar County, Texas

By

Harry J. Shafer and Thomas R. Hester

SUBMITTED TO

Frost GeoSciences
Helotes, Texas

By

ABASOLO ARCHAEOLOGICAL CONSULTANTS
San Antonio, Texas

Report No. 118
Abasolo Archaeological Consultants
San Antonio, TX
October 2012

Abstract

Abasolo Archaeological Consultants conducted Phase I archaeological investigations of the 52-acre Krause Tract in north Bexar County, Texas on October 15, 2012 for Frost GeoSciences of Helotes, Texas. This Phase I investigation is designed to detect and record any archaeological or historical component that may be present in the project area. The pedestrian survey at the Krause Tract recorded a large area of about 18 acres strewn with chert nodules and evidence of prehistory quarry activity. This ancient quarry area was designated as an archeological site and given the number 41BX1937. Evidence of prehistoric quarrying was noted in the form of tested nodules, spent cores, primary flakes, and an occasional manufacturing failure. No diagnostic artifacts were observed that would provide an indication of when the quarry was visited prehistorically. The cultural resources are confined to the surface and the site has no contextual integrity to merit further archaeological work. In addition to the prehistoric archaeological site, the ruins of a stacked stone fence were noted along the southern boundary of the property. No further archaeological work is recommended for the Krause Tract.

Introduction and Background

Abasolo Archaeological Consultants (AAC)[1], conducted Phase I archaeological investigations of the 52-acre Krause Tract in north Bexar County, Texas on October 15, 2012 for Frost GeoSciences of Helotes, Texas. The survey and assessment work was carried out in accordance with the archaeological standards of San Antonio to insure that no archaeological or historical resources eligible for nomination to the National Register of Historic Places are damaged or destroyed due to the planned construction. This Phase I investigation is designed to detect and record any archaeological or historical component that may be present in the project area.

The property commands a prominent knoll at the end of Misty Waters Lane west of Highway 281 and overlooks Canyon Creek Golf Course and the Mustang Creek valley to the south and Mud Creek valley to the east (Figs. 1 and 2). The geographic and geological setting indicates that the tract has a medium to high probability of containing prehistoric cultural resources. Geographically it borders the Mustang and Mud Creek valleys, and geologically two dominant Cretaceous formations are present, the Glen Rose and the overlying Edwards limestone. More information about the particular significance of the geology is provided below.

The topographic relief of the Krause Tract is severe with a dome-shaped hillcrest that drops off rather steeply to the east, south, and west (Fig. 1). The vegetation consists of the characteristic oak-juniper parkland along the rocky slopes and oak parkland with a managed grassy pasture on the hill crest (Fig 3). Surface visibility was relatively good across the tract of shallow soils and much exposed limestone bedrock.

Background to the Survey Area

[1] Abasolo Archaeological Consultants is SCTRCA certified (#211100341).

Geology

The Krause Tract occupies a high hill that was initially mapped as the Edwards Limestone (Ke) by Arnow (1959). More recent mapping divides the hill into two formations within the Edwards, the northern part representing the Kainer Formation (Kk) and the south portion, the Walnut Formation (Kw) of the Edwards Limestone (Fig. 4). Also known as the "Walnut Clay," the formation dates to Lower Cretaceous times, overlying the Glen Rose Formation.

The Edwards Limestone caps the hills and ridge tops of northern Bexar County. The presence of chert (flint) nodules is characteristic of the Edwards, although it is of variable distribution, and is absent in the basal beds of the formation (Arnow 1959:13).

Soils

The entire survey area is encompassed within Tarrant Association, Hilly, soils (TaD), typical of 15-30% slopes. Soils are stony, generally shallow and dark-colored. Outcrops of hard limestone are also found in areas of the property. Within the soils at the highest elevations of the Krause Tract are small to cobble-sized chert nodules and many examples of naturally fractured cherts. Scattered across this area is evidence of chert procurement by prehistoric peoples.

Archaeological Background

Regional Culture History

The broad outline of the archaeology of northern Bexar County is reviewed here. Major time periods and site types are briefly noted.

The **Paleo-Indian** period, 9,200-6,800 B.C., has distinctive chipped stone spear points used in hunting mammoth and other late Ice Age mammals early in the period. Other spear types appear with a shift to bison, deer and other game after the Ice Age ended around 8000 B.C. (Hester 1986). Known site types in northern Bexar County are *campsites* with flint-chipping debris from stone-tool making and repair. One site of Clovis age (9,200 B.C.) was excavated near FM1604 and Leon Creek (Collins et al. 2003). A later site, dating around 7,500 B.C., was investigated on the grounds of St. Mary's Hall on Salado Creek (Hester 1986).

Sites of the following **Archaic** period are common in northern Bexar County. These peoples were hunters and gatherers as in the earlier Paleo-Indian period, but lived in an environment very similar to those of modern times. Projectile points used to tip spears (often erroneously called "arrowheads") change in shape through time, from 6,800 B.C. to 500 A.D. (Turner et al. 2011). Archaeologists use these forms to recognize more specific time frames within the Archaic (e.g., Early, Middle and Late Archaic). In northern Bexar County, the most distinctive Archaic site is the *burned rock midden.* These large accumulations of fire-cracked limestone result from the use of earth-oven cooking starting around 3,000 B.C. (Black et al. 1997; Nickels et al. 2000). Such features were part of *larger campsites*, with large amounts of flint debris from tool making; sometimes, animal bone (dietary remains) and charcoal that can be used for radiocarbon dating. Other Archaic site types include *lithic procurement* areas (sometimes described as quarries) where flint cobbles eroded out of the Edwards limestone and were processed), *lithic scatters* (lightly-used areas probably representing short-term hunting and gathering activities), and rarely, *sinkhole burials* (Archaic peoples often disposed of their dead by placing them in sinkholes and caverns; Bement 1994).

By 700 A.D., there began to be some changes in the long hunter-gatherer lifeway. The **Late Prehistoric** is first seen with the introduction of the bow and arrow. The stone arrow points are very small (mistakenly called "bird points"), but could be used in hunting game of any size. By 1300 A.D., the economy emphasized buffalo hunting. Most sites of this era include *campsites,* often in areas previously used by Archaic

The **Paleo-Indian** period, 9,200-6,800 B.C., has distinctive chipped stone spear points used in hunting mammoth and other late Ice Age mammals early in the period. Other spear types appear with a shift to bison, deer and other game after the Ice Age ended around 8000 B.C. (Hester 1986). Known site types in northern Bexar County are *campsites* with flint-chipping debris from stone-tool making and repair. One site of Clovis age (9,200 B.C.) was excavated near FM1604 and Leon Creek (Collins et al. 2003). A later site, dating around 7,500 B.C., was investigated on the grounds of St. Mary's Hall on Salado Creek (Hester 1986).

Sites of the following **Archaic** period are common in northern Bexar County. These peoples were hunters and gatherers as in the earlier Paleo-Indian period, but lived in an environment very similar to those of modern times. Projectile points used to tip spears (often erroneously called "arrowheads") change in shape through time, from 6,800 B.C. to 500 A.D. (Turner et al. 2011). Archaeologists use these forms to recognize more specific time frames within the Archaic (e.g., Early, Middle and Late Archaic). In northern Bexar County, the most distinctive Archaic site is the *burned rock midden.* These large accumulations of fire-cracked limestone result from the use of earth-oven cooking starting around 3,000 B.C. (Black et al. 1997; Nickels et al. 2000). Such features were part of *larger campsites*, with large amounts of flint debris from tool making; sometimes, animal bone (dietary remains) and charcoal that can be used for radiocarbon dating. Other Archaic site types include *lithic procurement* areas (sometimes described as quarries) where flint cobbles eroded out of the Edwards limestone and were processed), *lithic scatters* (lightly-used areas probably representing short-term hunting and gathering activities), and rarely, *sinkhole burials* (Archaic peoples often disposed of their dead by placing them in sinkholes and caverns; Bement 1994).

By 700 A.D., there began to be some changes in the long hunter-gatherer lifeway. The **Late Prehistoric** is first seen with the introduction of the bow and arrow. The stone arrow points are very small (mistakenly called "bird points"), but could be used in hunting game of any size. By 1300 A.D., the economy emphasized buffalo hunting. Most sites of this era include *campsites,* often in areas previously used by Archaic

peoples, *lithic scatters* of this age; and the *lithic procurement areas* of earlier times continued to be used.

During the **Historic** period, the best-known archaeological remains are *ranch and farmhouses of cut stone*, dating from the 1840s through the 1880s. *Stacked- stone fences* also occur (Knott 2004, 2005; Cox 2008). Such sites, including those without surviving structures, are recognized from 19th century pottery fragments, artifacts of glass and metal, etc. Later Historic houses and farmsteads, through the early 1900s, are also found.

Archaeological Sites in the Vicinity

This area of Bexar County where the Balcones Escarpment meets the Coastal Plain and where the slopes of the Edwards Formation and creeks draining from it are laden with high quality chert. The oak-juniper canyon lands in this area of Bexar County support deer and sotol. This high concentration of natural resources in and around the spring fed canyons supported a long and at times dense human population in prehistory. Evidence of this include the incredible concentration of prehistoric archaeological sites along the San Antonio River-Leon Creek-Salado Creek valleys with chert procurement or quarry sites found where high-quality chert outcrops along the Edwards formation, and the common occurrence of burned rock middens along the upland header canyons and in the canyons themselves.

Very little archaeology has been done in the immediate area around the Krause Tract. Just to the east-southeast, a site designated as 41BX177 has been plotted (Fig. 6). However, site survey data are not available on the Texas Archeological Site Atlas (Texas Historical Commission). Close map examination indicates that the site area lies today under a housing subdivision and has been destroyed for quite a few years.

Another such casualty of growth in northern Bexar County is on the east side of Mud Creek, north-northeast (upstream) from the Krause tract. The site is 41BX1009, a burned rock midden recorded by the late avocational archaeologist C. K. Chandler in 1994 (Fig.

6). He reports (Texas Archeological Site Atlas) that the site had yielded a number of chipped stone artifacts, several of which he assigned to the Angostura type (Late Paleo-Indian). The site was, at that time, scheduled to be destroyed by a road and subdivision, which is seen on aerial photos of the area.

Just north of 41BX1009, is an extensive site that had been heavily dug by relic collectors (Fig. 6). This is site 41BX1671 located north of the Krause Tract along Mud Creek, recorded by David L. Calame, Sr., another regional avocational archaeologist. He observed the site and collections from it in 2006. In addition to prehistoric remains, he saw evidence of a Historic grave, and what he recorded as "rock walls" (probably stone fences; see below). Calame considers the prehistoric deposits as being very important; having yielded extensive Late Paleo-Indian and Early Archaic diagnostics (Fig. 5) and. he believes that a Paleo-Indian occupation zone is possibly present in the west part of the site. The site was to possibly be included in a developer's "green belt" but even if "preserved", untrained diggers have doubtless ravaged it. Figure 5 illustrates artifacts from site 41BX1671 photographed by David Calame, Sr., 2006.

Research Design

To fully inspect the area, a 100% pedestrian survey was conducted over the entire 52-acre tract. A no-artifact collection policy was followed. Any archeological material encountered was to be located on the project map. Following the fieldwork, the information recovered from the pedestrian survey have been compiled and evaluated and a formal report was be prepared for Frost GeoSciences.

Survey Results

The authors accompanied by T. G. Bey of Frost GeoSciences carried out the pedestrian survey. The methodology was to traverse the property by spacing the survey team to

insure maximum coverage. All areas of the property were thoroughly inspected for traces of prehistoric cultural resources, and standing structures were photographed. A no-collecting policy was followed and all cultural resources observed on the property were digitally photographed.

The property is occupied by two homes, an extensive ranch-style home that constitutes the main house (Fig. 7) with a four-car attached garage and swimming pool, a smaller second home, and a horse stable. These structures were built in the 1980s. The property was unoccupied at the time and the only livestock observed were a small herd of exotic goats.

The most interesting archaeological aspect about the property is the geology and how that contributes to the archaeological record. The marked topographic relief is due to the erosional characteristic of the Balcones Escarpment and the Balcones Canyonlands. The property is capped by the Edwards Limestone formation. Embedded in, and eroded from, the limestone are nodules of chert nodules. The quality of the chert ranges from dolomitic to fine chert, and evidence of prehistoric testing and reduction of the nodules was in evidence all around the crest of the hill. Underlying this is Glen Rose limestone, which is devoid of chert. This geological setting creates a chert zone above the 1,230 contour level (Fig. 8). Scattered chert cores, primary reduction flakes, and an occasional discarded biface were observed (Fig. 9). This prehistoric resource procurement area was given a trinomial number of 41BX1937.

41BX1937

The prehistoric quarry or lithic resource procurement area is designated as an archaeological site (41BX1937) in order to record its presence on the landscape, but we do not recommend any further archaeological research for this site. It extends above the 1230 feet contour on the USGS topographic map; in fact, the 1230 feet contour line provides the approximate site limits on the property. The estimated site area is about 783,225 sq ft, or just at 18 acres, and essentially caps the hill at the Krause Tract.

Artifacts observed across the site include cores (Fig. 10 top), primary flakes (Figs. 10 bottom and 11), and an occasional biface manufacturing failure (Fig. 12). No temporally diagnostic artifacts were observed to provide a date or date range for the prehistoric use of this lithic resource, but site 41BX1671 yielded diagnostic artifacts that date through much of the Archaic Period. The exploitation could have taken place at any time during human prehistory of the region.

Stacked Stone Fence Ruin

One historic feature was noted on the property; this consists of the ruins of a stacked stone fence along the southern property boundary overlooking the Mustang Creek valley and Canyon Creek Golf Course. The location of this feature is shown in Figure 13 and Figure 14 illustrates the current condition. For other examples of stone fences in the area, see Shafer and Hester (2007, 2008).

Summary and Recommendation

The pedestrian survey at the Krause Tract recorded a large area of about 18 acres strewn with chert nodules and evidence of prehistory quarry activity. This ancient quarry area was designated as an archeological site and given the number 41BX1937. Evidence of prehistoric quarrying was noted in the form of tested nodules, spent cores, primary flakes, and an occasional manufacturing failure. No diagnostic artifacts were observed that would provide an indication of when the quarry was visited prehistorically. The cultural resources are confined to the surface and the site has no contextual integrity to merit further archaeological work.

In addition to the prehistoric archaeological site, the ruins of a stacked stone fence were noted along the southern boundary of the property. The stones were no longer in place and two parallel barbed wire fences have replaced the stone fence. No further archaeological work is recommended for the Krause Tract.

References Cited

Arnow, T.

1959 *Ground-Water Geology of Bexar County, Texas.* Bulletin 5911. Texas Board of Water Engineers. Prepared in conjunction with the United States Geological Survey and the City of San Antonio. Austin, Texas.

Bement, L. C.

1994 *Hunter-Gatherer Mortuary Practices During the Central Texas Archaic.* The University of Texas Press, Austin.

Black, S. L., L. W. Ellis, D. G. Creel, and G. T. Goode

1997 *Hot Rock Cooking on the Greater Edwards Plateau: Four Burned Rock Midden Sites in West Central Texas.* Two volumes. Studies in Archeology 22, Texas Archeological Research Laboratory, The University of Texas at Austin, and Archeology Studies Program, Report 2, Environmental Affairs Department, Texas Department of Transportation. Austin.

Collins, M. B., D. B. Hudler, and S.L. Black

2003 *Pavo Real (41BX52): A Paleo-Indian and Archaic Camp and Workshop on the Balcones Escarpment, South-Central Texas.* Studies in Archeology 41. Texas Archeological Research Laboratory, The University of Texas at Austin.

Cox, M.

2008 Rock Fences. *Texas Tales* column for February 7, 2008. Online at www.texasescapes.com/MikeCoxTexasTales/Rock-Fences.htm

Hester, T. R.

1986 Early Human Populations Along the Balcones Escarpment. In *The Balcones Escarpment,* edited by P. L. Abbott and C. M. Woodruff, Jr., pp. 55-62. Geological Society of America, San Antonio, Texas.

Knott, L.

2004 The Historic Rock Fences of Blanco County: Their Past, Their Future. Master's Thesis in Architecture, The University of Texas at Austin.

2005 Rock Fences of the Texas Hill Country. *The Dry Stone Walls Association Newsletter* 4:7. Ballarat, Victoria, Australia.

Nickels, D. L., C. B. Bousman, J. D. Leach, and D. A. Cargill

2000 *Test Excavations at the Culebra Creek Site, 41BX126, Bexar County,* Texas. Archaeological Survey Report 265, Center for Archaeological Research, The University of Texas at San Antonio, and Archeological

Studies Program, Report 3, Environmental Affairs Division, Texas Department of Transportation. Austin.

Shafer, H. J. and T. R. Hester

2007b *An Archaeological Survey of Sundance Ranch, Northern Bexar County, Texas.* Report 54. Abasolo Archaeological Consultants, San Antonio, Texas.

2008 *An Archaeological Survey of the Hills of Boerne Stage I, II and III.* Report No. 64. Abasolo Archaeological Consultants, San Antonio, Texas.

Taylor, F. B., R. B. Hailey, and D. L. Richmond

1993 *Soil Survey of Bexar County, Texas*. United States Department of Agriculture, Soil Conservation Service, Washington, D.C.

Turner, E. S., T. R. Hester and R. McReynolds

2011 *Stone Artifacts of Texas Indians*. 3rd ed. Taylor Trade Publishing, Rowman and Littlefield, Lanham, MD.

Krause Tract Figures

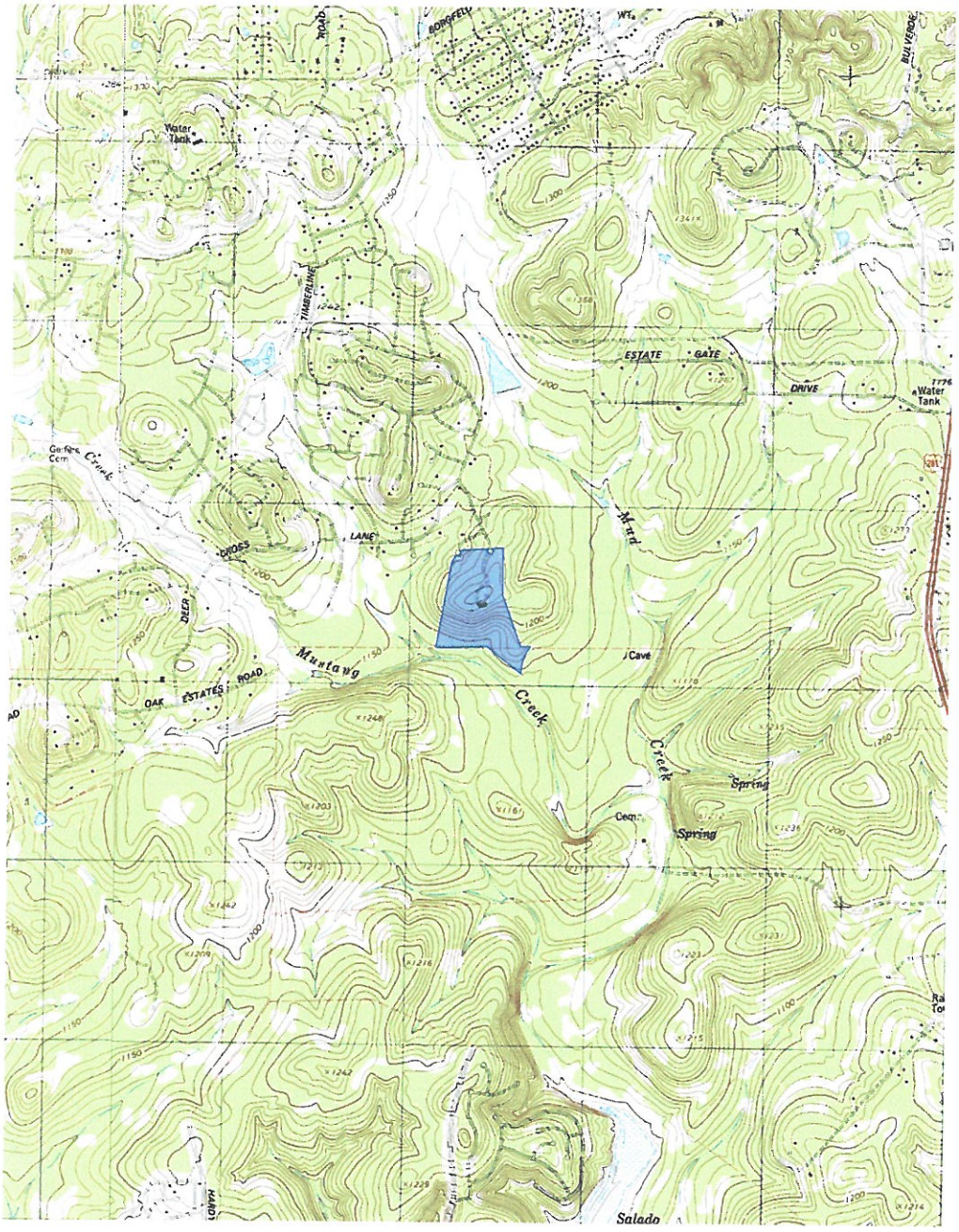

Figure 1. Topographic map showing the location of the Krause Tract in north Bexar County (image provided by Frost GeoSciences).

Figure 2. Aerial view of the Krause Trace in north Bexar County (image provided by Frost GeoSciences.

Figure 3. Views of the Krause tract showing the wooded rocky slopes of the hill and the open parkland of the hill crest.

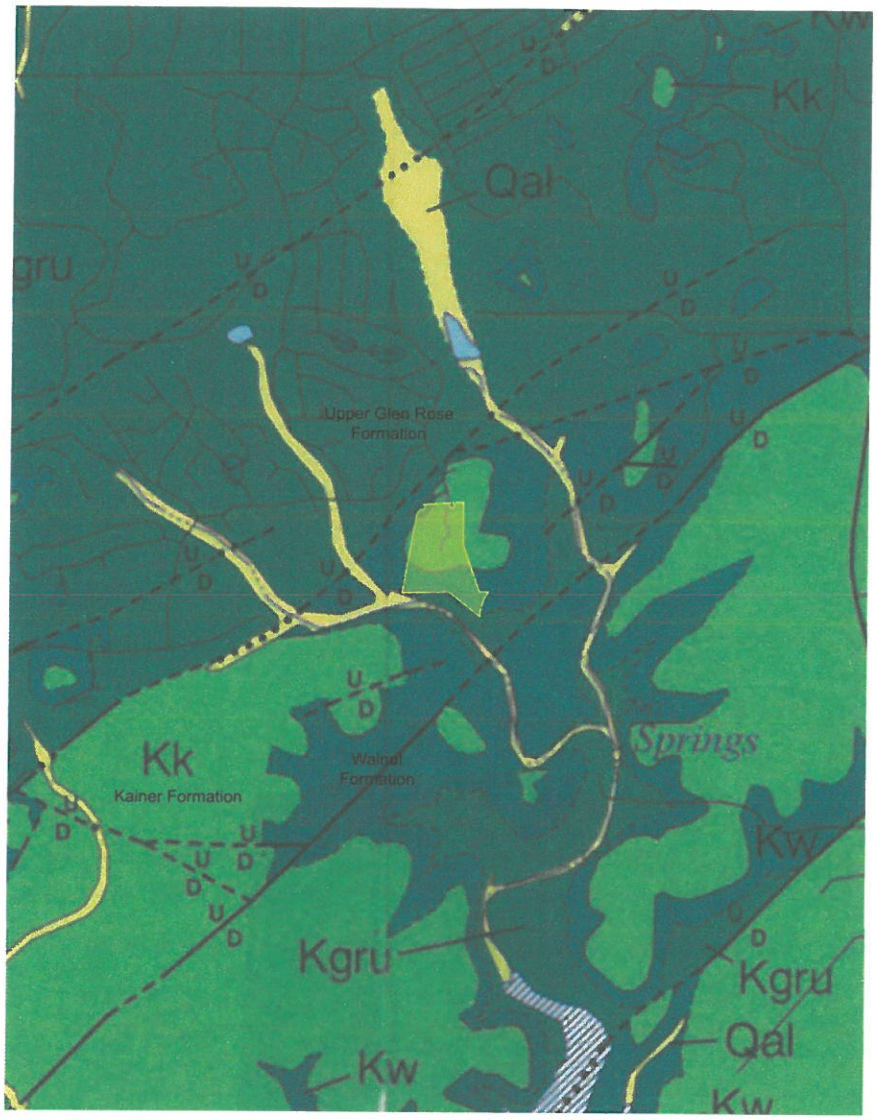

Figure 4. Geological map of a part of north Bexar County showing the location of the Krause Tract relative to the local surface geology (image provided by Frost GeoSciences).

Figure 5. Projectile point sample from 41BX1671, a prehistoric site along Mud destroyed by relic collectors. Among the point types identified are St Mary's Hall, Calf Creek (Andice), Bell, Laguna Angostura, Early Triangular, Martindale, Pedernales, Marcos, and Darl, indicating the site was intermittently occupied from ca. 10,400 to ca. 1500 BP (Typology based on Turner et al., 2011; image provided by D. Calame Sr.).

ITEM INTENTIONALLY OMITTED

Figure 6. Topographic map showing the location of sites in the immediate vicinity of the Krause Tract.

Figure 7. Front (top) and rear (bottom) views of the Spanish-style home on the Krause Tract.

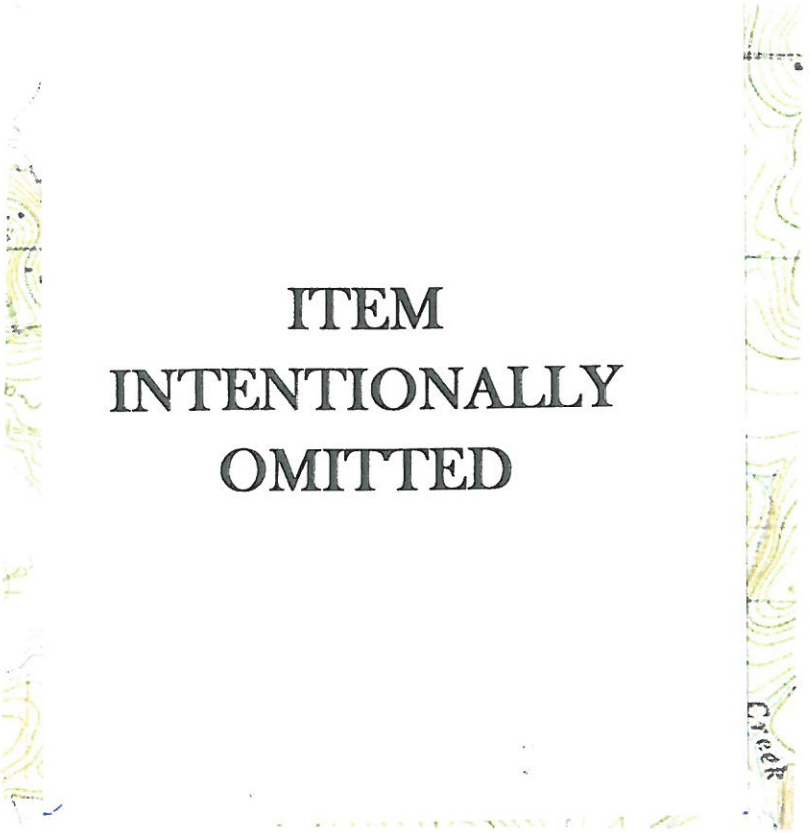

Figure 8. Location of Site 41BX1937 along and above 1230 msl contour.

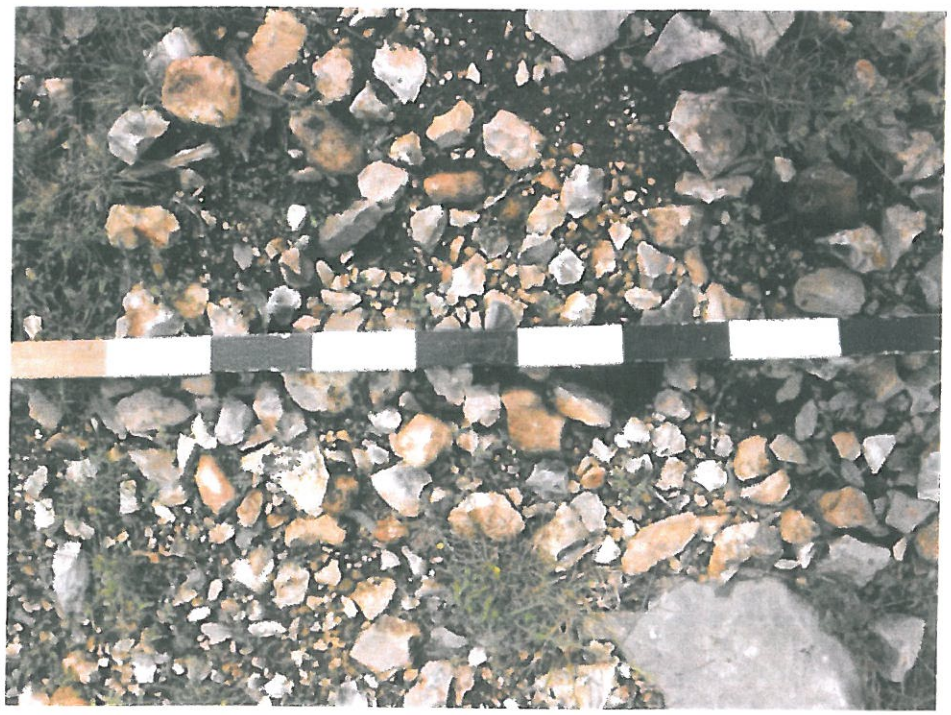

Figure 9. Chert scatter at 41BX1937.

Figure 10. Example of a chert core (top) and flake (bottom) at 41BX1937.

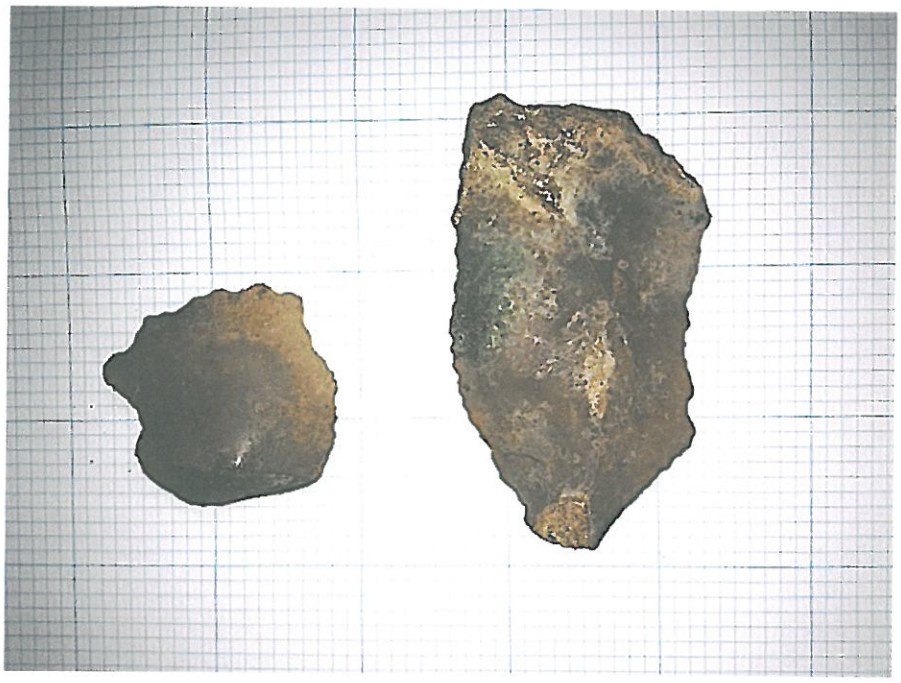

Figure 11. Primary reduction flakes observed at 41BX1937.

Figure 12. Biface tool failures observed at 41BX1937.

Figure 13. Location of stacked stone fence ruins along the southern boundary of the Krause Tract.

Figure 14. Views of the stack stone fence ruins along the southern Boundary of the Krause Tract.